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Hiroshi Yamada

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EXAMINER

HUANG, CHENG YUAN

ART UNIT

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1794

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/581,988	Applicant(s) YAMADA ET AL.	
	Examiner CHENG HUANG	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 February 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6, 11 is/are pending in the application.
- 4a) Of the above claim(s) 7-10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 2, 3, and 11 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

3. Regarding claim 2, it appears that the limitation “containing no fluorine resin particles” recited in the last line of the claim has no support in the specification. The cited phraseology clearly signifies a “negative” or “exclusionary” limitation for which the applicants have no support in the original disclosure. Negative limitations in a claim which do not appear in the specification as filed introduce new concepts and violate the description requirement of 35 USC 112, first paragraph, *Ex Parte Grasselli, Suresh, and Miller*, 231 USPQ 393, 394 (Bd. Pat. App. and Inter. 1983); 783 F. 2d 453.

4. Regarding claim 3, while there is support to recite that the content of the fluorine resin with reference to the polyimide resin is 3-50% by weight or the amount of fluorine resin mixed is 3-50% with reference to the solid content of the polyimide precursor solution, there does not

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appear to be support to recite that the content of the fluorine resin with reference to the polyimide resin taken as 100 parts by weight is 3-50 parts by weight.

5. Regarding claim 11, while Table 1 of the present specification provides support for specific values of dynamic friction resistance of the inner face of the tube, these specific values do not provide support to broadly recite dynamic friction resistance is no higher than 0.26 N and as low as 0.18 N.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claim 1-6 and 11 are rejected under 35 U.S.C. 103(a) as obvious over Nakajima (JP 2003-340946) in view of Yamamoto et al. (U.S. Patent No.5,309,210).

9. Regarding claim 1, Nakajima teaches a tube comprising a polyimide resin and fluorine resin wherein the fluorine resin is on an inner face of the tube (Fig. 1, [0005]).

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10. Nakajima fails to teach a mixture of polyimide resin and fluorine resin particles.

11. However, Yamamoto et al. teaches a mixture component including a polyimide resin (heat resistive resin material, col. 6, lines 5 and 36-38) and fluorine resin particles (fluorinated resin particles 102, col.6, line 6). The mixture component is heated (col. 6, lines 10-11) and which would intrinsically result in curing, whereby the resulting layer comprises the mixture component including the polyimide resin and the fluorine resin particles, the fluorine resin particles migrate, which is considered as “melted and precipitated on” to at least one face of the layer (col. 6, lines 12-14, Figs. 3A and 3B), the at least one face being an inner face or both the inner face and an outer face of the layer (Figs. 3A and 3B), the at least one face on which the fluorine resin particles melt and are precipitated is of a lower friction surface (col. 5, lines 62-65), thereby considered as a low friction resistance face, and the fluorine resin particles also are contained inside the polyimide resin (Fig. 3A and 3B). The limitations “heated and cured at an outer face of a core wire ...” and “melt and are precipitated” are method limitations and do not determine the patentability of the product, unless the process necessarily results in articles that are structurally or compositionally distinguishable from those of the prior art. Furthermore, the limitations “heated” and “melt and are precipitated” are taught by Yamamoto et al. as shown above.

12. It would have been obvious to one of ordinary skill in the art at the time of the invention to include fluorine resin of Yamamoto et al. in the outer layer of Nakajima and heat the mixture in order that the fluorine resins migrate to at least one face of the tube to decrease friction and improve sliding (Yamamoto et al., col. 5, lines 62-66).

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13. Regarding claims 2 and 11, Nakajima as modified by Yamamoto et al. is silent as to the dynamic friction resistance of the inner face of the tube. However, both inventions comprise mixtures of polyimide and fluororesin, which in being heated, move to the outer surfaces of the tube. Since the mixture components, process, and resulting features of the tube of Nakajima as modified by Yamamoto et al. are identical to those of the Applicant's, as disclosed in the above rejection, it is expected that the resulting tube of Nakajima as modified by Yamamoto et al. exhibits a dynamic friction resistance values of the claimed limitations.

14. Regarding claim 3, Nakajima does not explicitly teach the claimed weight ratio of fluorine resin to polyimide resin.

15. However, Yamamoto et al. teaches 0.1-10% of fluorinated resin particles dispersed in the polyimide mixture (col. 6, lines 5-6).

16. Regarding claim 4, Nakajima teaches a tube wherein the tube comprises a polyimide resin formed from a precursor solution including at least one type of aromatic tetracarboxylic acid dehydrate and at least one type of aromatic diamine [0005]. The limitation "obtained by conversion to an imide by heating..." is a method limitation and does not determine the patentability of the product, unless the process necessarily results in articles that are structurally or compositionally distinguishable for those of the prior art. The implied structure of a tube comprising a polyimide resin formed from a precursor solution including at least one type of aromatic tetracarboxylic acid dehydrate and at least one type of aromatic diamine is taught by Nakajima [0005], where Nakajima teaches using Pyre-M.L. materials. Pyre-M.L. materials are aromatic polyimides formed from pyrometallic dianhydride and oxydianiline. See for example the Materials Safety Data Sheet for RC5019 Pyre-M.L. Therefore the articles of Nakajima

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modified by Yamamoto et al. are identical to those claimed. Applicant has failed to demonstrate that the claimed product-by-process limitations necessarily do not give rise to articles that do not encompass the article of the cited art. Absent persuasive evidence a rejection is appropriate.

MPEP 2113.

17. Regarding claim 5, Nakajima teaches a tube wherein the fluorine resin particles are of polytetrafluoroethylene (PTFE) [0005]. Furthermore, Yamamoto et al. teaches fluorine resin particles of polytetrafluoroethylene (PTFE), tetrafluoroethylene-perfluoroalkylvinylether (PFA), and tetrafluoroethylene-hexafluoropropylene copolymer (FEP) (col. 6, lines 45-47).

18. Regarding claim 6, dependent on claim 1, Nakajima teaches a tube wherein the tube is a catheter guide [0001]. Specifically, since the tube of Nakajima as modified by Yamamoto is identical in structure and materials to those of the instantly claimed invention, the tube is deemed capable of performing the functions of a catheter tube. Therefore, the invention of the prior art encompasses that of the instantly claimed invention.

Response to Arguments

19. Applicant's arguments, filed February 2, 2009, with respect to the rejection(s) of claim(s) 1-6 under 35 U.S.C. 103(a) and 35 U.S.C. 102(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of newly found prior art reference of Yamamoto et al.

20. Applicant's amendments overcame the claim objections and the 35 U.S.C. 112, second paragraph, rejections.

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21. Applicants amended the claims to clarify that tube comprises mixture of polyimide and fluororesin particles which raised new issues and consideration and necessitated the new 103 rejection of Nakajima in view of Yamamoto et al. Applicant's arguments regarding Nakajima, Burns, and Muni et al. are directed towards a mixture of fluororesin particles and polyimide resin. As stated above, Yamamoto et al. teaches a mixture of fluororesin particles and polyimide resin where upon heating produces a layer of fluorine resin particles along the surfaces that have reduced friction.

Conclusion

22. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

23. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHENG YUAN HUANG whose telephone number is (571) 270-7387. The examiner can normally be reached on Monday-Thursday from 8 AM to 4 PM.

25. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho, can be reached at 571-272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

26. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/C. H./

Cheng Yuan Huang

Examiner, Art Unit 1794

April 24, 2009

/Callie E. Shosho/

Supervisory Patent Examiner, Art Unit 1794